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ABSTRACT

Pretests and post-tests, which measure the knowledge of students before and after instruction, are used to evaluate the effectiveness of a self-instructional "Library Survival Kit," which teaches basic library skills to freshmen at Richmond College. Findings of this study indicate a significant improvement and a passing average for the freshmen English classes (466 students). Although the kit is apparently successful, there are still some areas of instruction that need improvement. (Author/MBR)

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AN EVALUATIVE REPORT OF THE RICHMOND COLLEGE FRESHMAN LIBRARY INSTRUCTION PROGRAM

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Edward James DeLong
June 15, 1978

IR006291

Abstract

This is a report on the evaluation of the Richmond College Freshman Library Instruction Program at the University of Richmond. The Program is a self-instructional "Library Survival Kit" teaching basic library skills to freshman. The Pre-test/ Post-test measures the knowledge of students before and after instruction. This study demonstrated a significant improvement of 15.46 points and a passing average for the class. A total of 67.53% of the class passed the test. More importantly, 84.99% of the class improved their grades on the Post-test. Apparently successful, there are still some areas of instruction that need improvement.

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Dr. William E. Walker, Dr. Henry R. Stewart, and Dr. James D. Ramer for their assistance in completing this project.

My wife, Marion, and son, Billy, for the needed time and quiet to complete these studies.

All conclusions contained in this study are the sole responsibility of the author.

An Evaluative Report of the Richmond College
Freshman Library Instruction Program

I. Objective of Study

The objective of this study is an evaluation of the Freshman Library Instruction Program at Richmond College, the male undergraduate division of the University of Richmond, Richmond, Virginia. The hypothesis tested is that the Freshman Library Instruction Program meets its goal of teaching the students enough basic library procedures to make it possible for the student to research independently a topic by using basic library tools. This study will not attempt to judge qualitatively the habits instilled in the student, nor the overall results of the student's writings. The results obtained can be useful in determining what the student is learning and how to change the "Library Survival Kit", a self-instructional packet the student receives for the instructional program.

II. Procedures

The procedures proposed and used in this study were the following:

A. Construct a pre-test based upon course objectives to determine student's knowledge of library research procedures.

B. Develop a standard of measurement for evaluating student's performances on the pre-test and the post-test.

C. Administer an unannounced pre-test before the start of the Library Instruction Program; correct and record each student's performance. (It is assumed that all students are entering freshman.) Sample size will be all sections of Richmond College Freshman English (22) with a total population of 466 students.

D. Conduct the Library Instruction Program: A tape/slide tour of the Library's facilities and a lecture given by a Librarian. A personal walking tour of the Library will be taken by each student. Before giving the students the Library Survival Kit, the study guides and questions, the student will be asked various questions to determine if he has taken the walking tour. If it is ascertained that the student has, he will be given the study guides and exercises for the instructional program.

E. Construct a post-test.

F. Administer the post-test, unannounced on the first day of second semester. Correct these tests and record each student's performance.

G. Compare results of the pre-test and the post-test and measure the degree of improvement according to predetermined standards established as part of Procedure B above.

H. Submit a report of the findings of this study to:

1. Dennis E. Robison, University Librarian, Boatwright Memorial Library, University of Richmond, Richmond, Virginia.
2. Dr. Irby Brown, Chairman of the Richmond College English Department of the University of Richmond.

3. Dr. James D. Ramer, Dean of the Graduate School of Library Service, University of Alabama.
4. Dr. Henry R. Stewart, Faculty Adviser and Consultant for this study, Old Dominion University, Norfolk, Virginia.
5. Dr. William E. Walker, Assistant Professor of Psychology, University of Richmond, special consultant for testing and measurements.

III. Limitations of the Study

1. Lack of a control group.

Since all incoming freshman at both Richmond College (men) and Westhampton College (women) receive some form of library instruction, it is impossible to have a group receiving no library instruction. Because of class absences, however, a group of 23 students was obtained which had no pre-test scores. This group did indicate that there was no contamination factor from seeing the pre-test.

2. Change of high school instruction and work answers.

Between the pre-test and the post-test, 147 students changed answers to the questions of having had previous high school library instruction or prior work experience in a library. Due to this large number (147) and percentage of the sample (19.9%), the data for grouping purposes are determined to be unreliable.

3. Inability to determine correctness on Library Instruction exercises.

Although each student's packet was graded by a Librarian,

there was no attempt to collect any data on how successful each student answered each question. Correlation between the Library Instruction Program exercises and the post-test would better indicate strengths and weaknesses of the Library Instruction Program.

4. Computer problems.

Because of a changeover in the Statistical Package for the Social Sciences at the University of Virginia, the computer could not ignore missing values as instructed. Consequently, all post-test figures had a wrong answer listed 70 times for each question. (This figure is the difference between the 443 pre-testers and the 373 post-testers.) All percentages on the post-test were adjusted for this difference.

5. Keypunch errors.

A few were found but manual checking produced an error of less than 1%, so the difference is ignored.

IV. Statistics of Pre-test and Post-test

Group	Population	Percent Mean	Standard Deviation	Grades Improved	Passed Test
Entire Sample Pre-test	443	69.97%	17.1	--	128 (28.89%)
Entire Sample Post-test	373	85.43%	24.6	317 (84.99%)	253 (67.83%)
No Pre-test Group	23	78.4%	17.7	--	12 (52.1%)

Because large numbers of students changed their categories concerning their history, the data were not produced concerning these samples on the post-test.

Group	Population	Percent Mean	Number who changed history
Entire Sample	443	69.97%	147 (19.9%)
Previous high school Library Instruction	273	72.5%	80 (21.4%)
Prior work in a Library	108	68.9%	67 (17.9%)
No high school Library Instruction	170	65.9%	
No prior work in a Library	335	70.3%	
Previous Library Instruction & work	67	72.1%	
Neither previous Library Instruction and work	130	66.0%	
Some Instruction or work	313	71.5%	

V. Analysis of Statistics

This pre-test/post-test technique has been designed to indicate a minimum awareness of library skills. A passing grade of 80% was assigned. It was hoped that many students would score 90% or better, as indeed 38% of the sample did on the post-test.

The population group consisted of all freshman students enrolled in Richmond College English 101-102. There were a few students in the evening class, classified as freshman, who are not a part of Richmond College, but became a part of this study because of their course enrollment. In the entire sample, there are no repeaters of the course and no transfer students. The population covered a large sample of men and is typical of the freshman class.

Because of the size of this sample, standard statistical procedures will be used--the standard deviation method.[1] The results are indicated in Part IV.

Among all students the Percent Mean on the pre-test was 69.9%; on the post-test, the Mean was 85.43%, showing an increase of 15.46% and a passing average for the entire sample. Of the 373 post-test students, however, only 67.8% passed the test itself with a score of 80% or better.

A control group of 23 students who did not receive the pre-test because of class absence did take the post-test. The

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[1] William Mendenhall, Lyman Ott, and Richard F. Larson, Statistics: A Tool for the Social Sciences, (North Scituate, Mass.: Duxbury Press, 1974), pp. 136-144.

Percent Mean was 78.4% with slightly over half the group (52.1%) passing. Comparing question to question of the test, the results are surprisingly similar on 29 of 31 possible answers on the test.

Because a large percentage (19.9%) of students changed their answers between the pre-test and the post-test concerning their history of previous high school library instruction or prior work experience in a library, data were not produced concerning these samples on the post-test. The pre-test Percent Mean scores reveal some interesting trends. The highest averages were obtained in the group which had previous high school library instruction (72.5%) and the lowest in the group with no previous high school library instruction (65.9%). Even at these extremes, however, there are still no significant differences from the entire sample's score (69.97%). The difference between these two groups indicate that previous high school library instruction may be important. With 21.4% of this sample changing their answer concerning their history of previous high school library instruction, no reliability can be placed on these figures to account for the difference found.

Analysis performed was the Statistical Package for the Social Sciences (Northwestern University) run on the CDC 6400 computer time sharing system at the University of Virginia, Charlottesville, Virginia. Programs were Condescriptive and Frequencies. All data gathered in this study are in machine-readable form. Data subject to deeper analysis upon request.

VI. Questionnaire Analysis by Question

Question	Pre-test	Post-test	% Change
1	72.7%	92.4%	+19.7%
2A	79%	93%	+14%
2B	79%	92.4%	+13.4%
2C	79%	92.4%	+13.4%
2D	79%	92.2%	+13.2%
2E	53%	76.6%	+23.6%
3	81%	79.8%	-1.2%
4	77%	90.8%	+13.2%
5	23.7%	62.4%	+38.7%
6A	96%	97.3%	+1.3%
6B	97.3%	97.3%	no change
6C	97.9%	98.1%	+.2%
6D	81.5%	87.6%	+6.1%
6E	87%	93.5%	+6.5%
6F	97.3%	97.3%	no change
6G	92.7%	96.5%	+3.8%
6H	97.7%	97.8%	+.1%
6I	97.5%	97.8%	+.3%
6J	85.2%	87.1%	+1.9%
7	42.8%	59.2%	+16.4%

Question	Pre-test	Post-test	% Change
8A	98.6%	97%	-1.6%
8B	69.9%	82.3%	+12.4%
8C	42.5%	57.1%	+14.6%
8D	73.7%	87.9%	+16.2%
8E	67.4%	81.7%	+14.3%
8F	59.6%	79%	+19.4%
9A	70%	80.9%	+10.9%
9B	81.7%	88.4%	+6.9%
9C	66.7%	78.8%	+12.1%
9D	62.1%	80.7%	+18.6%
9E	53.9%	74.2%	+20.3%
Average Score	69.97%	85.43%	+15.46%

VII. Analysis of Questionnaire Analysis by Question

On the pre-test, some questions were answered correctly with a very high percentage, as indicated in Part VI. These included Question 3 (81.2%), Question 4 (78.7%), parts of Question 6 (A, B, C, F, G, H, I), Question 8A (98.6%) and Question 9B (81.7%).

It is interesting to note that the number of "I don't know" answers was reduced significantly on the post-test compared to the pre-test. Many of these answers now tally up as correct answers in the post-test, one of many reasons that indicate the success of this program.

Although Question 1 had a high percentage of correct answers on the pre-test (72.7%), the post-test showed a 19.7% increase. Boatwright Memorial Library uses the term "public catalog" to describe the "card catalog" at mosy other places. The increase is probably due to student usage of the public catalog during the Library Instruction Program and to student identification of the "public catalog" as the "card catalog" of their old library.

Because Boatwright Memorial Library uses material classified in both the Library of Congress and Dewey Decimal Classification systems, Question 2 is important in locating materials. Until all materials reflect Library of Congress call numbers, it will be very important for students to recognize the differences between these systems in order to find the materials accurately on the shelf. Only 76.6% were able to

identify correctly Question 2E as a Library of Congress call number with a decimal located within the number. Greater improvement is needed even though 23.6% of the class did improve their answer on this question.

The results on Question 3 are disturbing. On the pre-test 81.2% correctly responded; on the post-test only 79.8% correctly responded. Unfortunately there is an emphasis in the tape/slide program and the exercises on usage of the visible file and the post-test reflects this, as 16.8% (compared to 7.2% on the pre-test) would go to the visible file first instead of an index to find articles on a particular topic.

Question 4 reflects awareness of what an author entry (main entry) can be. Although the correct answer percentage increased some 13.2% to 90.8% correct, it is more interesting to note that the absolute number of "I don't knows" decreased from 62 to 12.

Question 5 shows that students become aware of other indexes (specifically, The Humanities Index) than the Readers' Guide. The Library Instruction Program, stressing usage of the Humanities Index has apparently had very positive results in the testing -- an increase of 38.7% (from 23.7% correct on the pre-test to 62.4% on the post-test). This percentage increase could have gone even higher if there were a method of determining correctness of student answers during the exercises, as this may point out a weakness of the instruction itself.

The results of Question 6 reveal that students are having

difficulty recognizing the differences between author, title, and subject card types (Question 6D,E,J). Differentiation of these cards is a specific task of the Library Instruction Program and students should have scored much higher on the title and subject sections of the test. Many students were able to identify the other information correctly, however, suggesting that some of this instruction may be unnecessary.

Question 7 on The Essay and General Literature Index shows some disappointing results. Responses a and b reduced themselves by a few percentage points and response e decreased significantly. Response d, a wrong answer, increased somewhat--a disappointment. Response c, the correct answer, did increase significantly, some 16.4% as a result of the Library Instruction Program.

Question 8, concerning the correct entry citation of an article in order to locate the article, reveals the greatest area of improvement needed in this Library Instruction Program. The only response that was very high on the pre-test was a part concerning authorship of the article. The remaining answers all showed significant improvement, but none was a really high scorer. This leads to the conclusion that once students have found an article of interest in a periodical index, the student may not find the article on the shelf due to copying incorrectly the information necessary to find the article. Many, many students failed to cite the correct magazine title, article, and issue date. Many of these same students confused the title of the article with the subject

of the article. According to the Librarians, many students missed this section of the Library Instruction Program, but no figures are available to authenticate this. A further investigator should attempt to obtain this information.

Question 9 concerned search strategy a student may use in finding certain information. Improvement, some significant, was shown in all areas.

VIII. Statistics of Part B of Pre-test

Question 1	32.2% yes	
Question 2A	1.83 average	248-1 101-2 39-3 26-4 26-5 3-no answer
Question 2B	1.89 average	233-1 118-2 37-3 16-4 36-5 3-no answer
Question 2C	1.80 average	275-1 87-2 18-3 22-4 38-5 3-no answer
Question 3	70.2% "comfortable"in using a library	
Question 4	50% used microforms before coming to college	
Question 5	97.29% ask a librarian	
Question 6	The following services are ranked in descending order of selection: A, Q, K, U, N, P, V, O, M, G, R, C, E, I, B, D, H, L, J*, T*, S, X, W, F. * denotes a tie. Average number of services selected: 16.36	

IX. Analysis of Statistics of Part B of Pre-Test

Part B was distributed as part of the pre-test only and does not affect the grading of Part A. It was an opinion survey of the students attempting to obtain a better understanding of the freshman class.

For 32.2%, the library was a factor when deciding upon a college, according to Question 1. One of the reasons for coming to the University of Richmond is the spaciousness of the library and the depth and breadth of its holdings. On the other hand, the library at another school could have been the reason for not attending that school. The interpretation placed on the question was the student's. This figure may be useful as a tool for the Admissions people as to a reason a particular school was selected.

Question 2 in three parts was designed to see how the students saw the library and library usage as part of their opinions of the library. The figures reveal that many students had favorable responses to the library as a part of their college education.

A student was left to his own imagination in defining "comfortable" in Question 3. 70.2% said they felt that when using a library.

Half the incoming class used microfilms in a library before coming to college, indicating a need for keeping these materials as part of the Library Instruction Program to expose all students to this format of materials.

Question 5 reveals a surprise -- 97.29% responded with a favorable "Ask a Librarian for assistance" when asked: "If you are unable to find what you want in the library, what should you do next?" This indicates a desire to seek better assistance from the librarians on duty and not the discouragement that "this library doesn't have what I need" would indicate.

Question 6 indicates some of the services that Boatwright Memorial Library offers. The purpose of the question was to learn what the freshman thought the library offered them. An average of 16.36 items were checked on each questionnaire. The University Librarian knows now what and how to emphasize better the library's services to the university community.

X. For Further Study

1. It would be valuable to obtain the permission of each student in a new study to see if grades in the Library Instruction Program correlated with English 101-102 grades and the overall grade point average. Does success in the library involve academic success in the classroom?

2. Some juniors and seniors from each college should be selected as another group to see what these groups have learned or retained over a longer time span.

3. A method of "grading" each section of the Library Instruction Program should be instituted and tabulated. If a student's work was unsuccessful, such as the correct article citation, the student should have to repeat the work until it is correct. Once a student has successfully completed all

these sections, a bigger improvement on the post-test should result.

4. Students never see the results of the pre-test and post-test. It may be interesting to have a small sample in a future study see the results of the pre-test and the post-test. This would provide reinforcement of the correct answers and also may indicate if there will be any contamination on the post-test results, since the students will have seen the correct pre-test answers.

XI. Conclusion

The Library Instruction Program at the University of Richmond is a self-paced "Library Survival Kit" which appears successful. When completed, the student uses knowledge and skills gained to write a lengthy research paper on a topic chosen in consultation with his English instructor. This reinforces these studies and one may hope the student will see connections to other courses, such as Western Civilization.

Student answers on the Library Survival Kit should be tabulated to determine how successful the Library Instruction Program really is. At this point, with available figures, one may say that the freshman class showed significant improvement. The Library Instruction Program is meeting the needs of many of the students. More should be expected. With the merging of the Westhampton College and Richmond College English Departments into a unified program, a new Library Instruction Program will be designed. The results of this study may

be used to determine a future structure for the program -- what needs to be stressed, what can be deemphasized, and what needs to be improved.

The University of Richmond should thoroughly evaluate this new program and, from this evaluation, design an even better Library Instruction Program.

Appendix A Test Question

The following pages are a sample of the actual test distributed to the students involved in this study. Part B of this test was distributed only on the pre-test.

LIBRARY PRE-TEST

Student's name:_____ Date:_____

English Instructor:_____ Section No.:_____

Did you have library instruction in high school? Yes_____ No_____

Did you ever work in a library? Yes_____ No_____

Directions: As appropriate, fill in the blanks or circle the best answer to each question.

1. The first step in finding books on a particular topic is to consult:

   a. the visible file
   b. the public catalog
   c. the stack area
   d. the circulation desk
   e. I don't know.

2. Label the following call numbers as to the proper classification system--Library of Congress (LC) or Dewey Decimal (DD).

N	PS	822.3	909.7	RA
6494	3531	C28	Sh319	440.55
E9	L42			Z9
A228	F63			N37
				1975
_____	_____	_____	_____	_____

3. The first step in finding periodical articles on a particular topic is to consult:

   a. the visible file
   b. the public catalog
   c. the reference librarian
   d. appropriate periodical indexes
   e. I don't know.

4. An author entry (main entry) is usually a person, but can be:

   a. a corporation
   b. an institution
   c. an agency or government body
   d. all of the above
   e. I don't know.

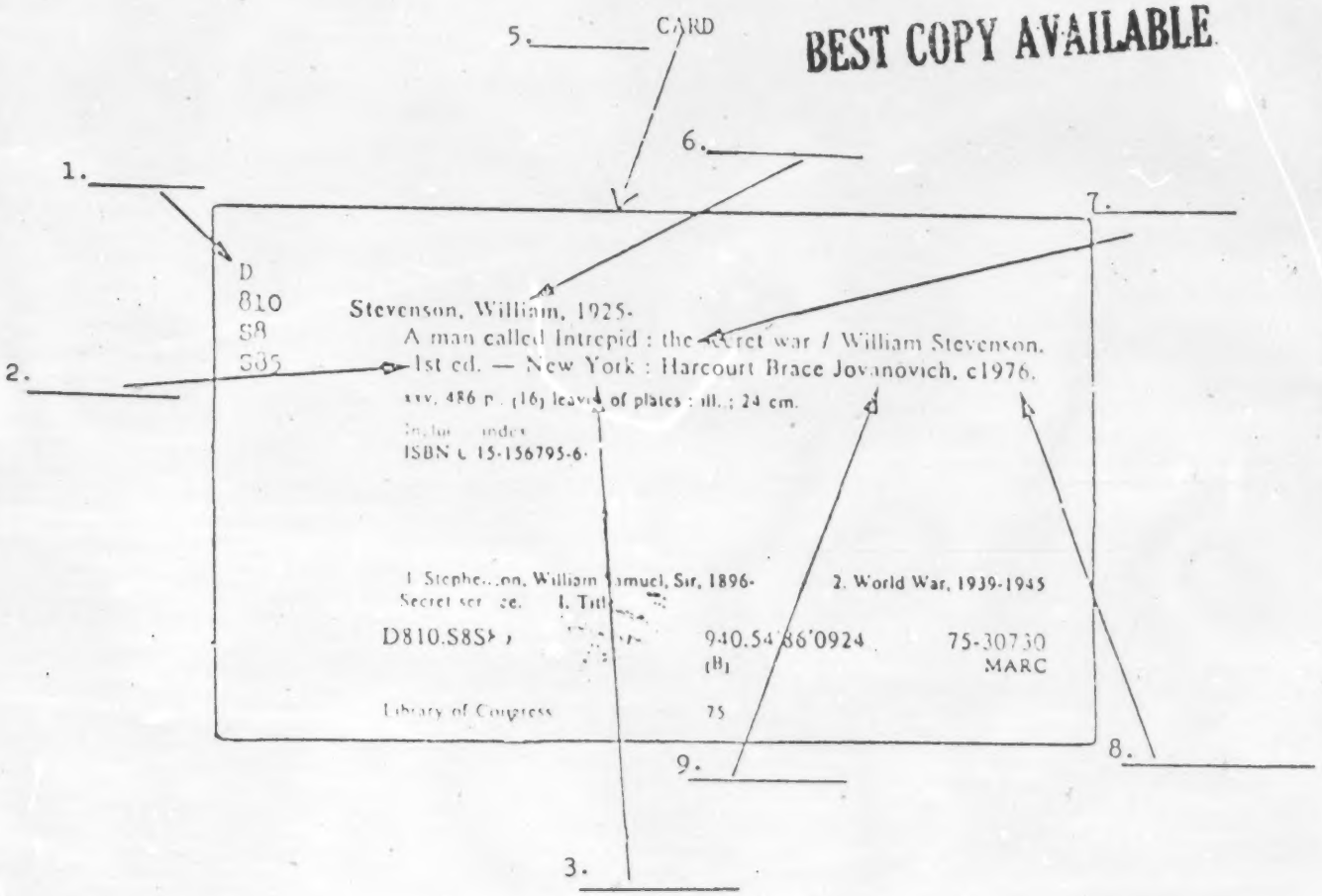
5. You will find the more scholarly periodical articles in:

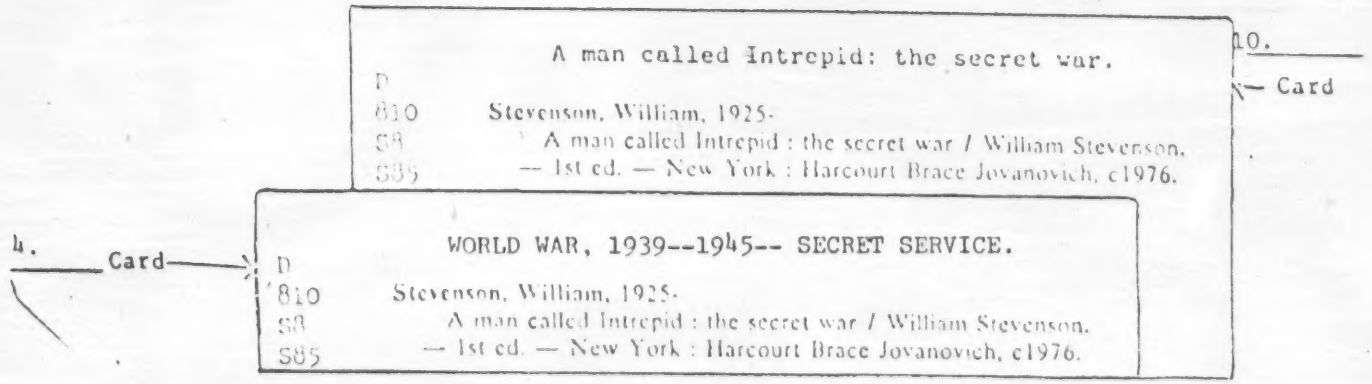
   a. Readers' Guide to Periodical Literature
   b. The Humanities Index
   c. Encyclopaedia Britannica
   d. I don't know.

Label the following items with the correct letter.

a. author
b. author card
c. call number
d. date of publication
e. edition
f. place of publication
g. publisher
h. subject card
i. title
j. title card

BEST COPY AVAILABLE





7. You will find articles from books listed in:

   a. Readers' Guide to Periodical Literature
   b. The Humanities Index
   c. The Essay and General Literature Index
   d. all of the above
   e. I don't know.

8. An entry from Readers' Guide to Periodical Literature might look like this:

   CONDITIONED responses
   Acquisition and retention of long-term habituation in aplysia. T. J. Carew and E.R. Kandel. bibliog il Science 182: 1158-60 D 14 '73.[2]

   Fill in the following blanks:
   a. The author of the article is:_____.

   b. The title of the article is:_____.

   c. The magazine article appears in:_____.

   d. The volume and page numbers are:_____.

   e. The issue date is:_____.

   f. The subject of the article is:_____.

9. When trying to locate information in Column A, which of the procedures listed in Column B would you use? Match each entry in Column A with the procedure from Column B that would best help to locate it.

COLUMN A	COLUMN B
1. Books the library has on baseball_____	a. Use an index to periodical literature.
2. Magazine articles on the abortion controversy_____	b. Consult serials catalog.
3. Catcher in the Rye _____	c. Use Webster's Collegiate Dictionary.
4. Books by Kurt Vonnegut _____	d. Search magazine shelves.
5. Origin and history of the word "football"_____	e. Look in the Public Catalog.
	f. Browse book shelves.
	g. Consult Oxford English Dictionary.

[2]READERS' GUIDE TO PERIODICAL LITERATURE Copyright ©1973,1974 by The H. W. Wilson Company. Material reproduced by permission of the publisher.

Part B

1. Was the library a factor when deciding upon a college? Yes_____ No_____

2. Using a scale of 1 (Strongly agree) to 5 (Strongly disagree), please answer the following:

   A. The university libraries are important in my college education._____

   B. My professors will expect me to be able to utilize the library efficiently._____

   C. Knowing how to use the library will help me in many of my courses.____

3. Do you feel "comfortable" when using a library? Yes _____ No _____

4. Have you ever used microfilms or any other microform in a library? Yes_____ No_____

5. If you are unable to find what you want in the library, what should you do next? (choose 1)

   a. Ask a friend for help.
   b. Go to book and magazine shelves and browse.
   c. Assume the library doesn't have anything and change your topic.
   d. Ask a librarian for assistance.
   e. Go to another library.

6. Check all the items below that you think are services that the library might provide:

a.___Help in obtaining information.
b.___Help getting started on a term paper.
c.___Help in producing a tape and slide program.
d.___Help in producing bibliographies.
e.___Typing rooms.
f.___Lend calculators.
g.___Group study rooms.
h.___A twenty-five pound dictionary.
i.___College catalogs from other Universities.
j.___Smoking study rooms.
k.___Popular magazines and books for leisure reading.
l.___Watergate transcripts.
m.___Creature comforts, (restrooms, water fountains, candy machine air conditioning.)
n.___Science Fiction.
o.___Language Laboratory.
p.___Individual Study carrels.
q.___Card catalog.
r.___All the old yearbooks.
s.___C.I.A. Maps.
t.___Congressional hearings.
u.___Copying machines.
v.___Information on Tennis, Back-packing, Chess, European travel, Plants, Pizza.
w.___The phone number of a friend in New York City.
x.___Views of the Duck Races on the Lake.